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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/966,288	10/01/2001	Koji Maeda	Q66472	4172

7590 02/24/2004

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EXAMINER

LEO, LEONARD R

ART UNIT PAPER NUMBER

3753

DATE MAILED: 02/24/2004

*17*

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/966,288

Applicant(s)

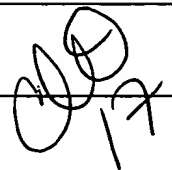
MAEDA ET AL.

Examiner

Leonard R. Leo

Art Unit

3753



--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 05 February 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.
- ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☒ A Notice of Appeal was filed on 30 December 2003. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☐ The proposed amendment(s) will not be entered because:
- (a) ☐ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☐ will not be entered or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 1, 7 and 39-42.Claim(s) withdrawn from consideration: 2-6 and 8-37.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_



Leonard R. Leo  
Primary Examiner  
Art Unit: 3753

Continuation of 5. NOTE:

Applicants' remarks with respect to the nozzles are not persuasive. Applicants ignore the expertise of the person having ordinary skill in the art of nozzles. A person having ordinary skill in the art of heat exchangers has fundamental knowledge of thermodynamics, fluid dynamics, statics, material science and other college engineering basics. It is, therefore, surprising that one versed in fluid dynamics is unfamiliar with spray nozzles having a diverging outlet portion as evidenced by the spray nozzle 22 of Johnson. See MPEP 2131.01. Thus, the schematically sketched spray nozzles of Tsubouchi et al as evidenced by Johnson meets the claimed limitations structurally, wherein the elected species of the "means plus function" recitation are drawn to nozzles with diverging portions of Figure 6B. Therefore, in this respect, applicants' Webster's Dictionary does not fully encompass the knowledge of the person having ordinary skill in the art of heat exchange. An engineering dictionary would doubtlessly provide a more adequate technical definition.

The spray nozzles of Tsubouchi et al are disposed to individually spray a fluid between conduits 12 of corrugated plate 11. Tsubouchi et al (column 2, lines 44-48) discloses "Atomization of the fluid to be heated improves the thermal efficiency of vaporization because the increase of the surface area of the fluid to be heated facilitates vaporization." Johnson (page 2, lines 4-8) discloses the fluid "will be discharged in a spray-like delivery in a diverging spray so as to distribute the [fluid] over a larger area." Thus, the skilled artisan would recognize that the spray nozzle of Johnson is clearly pertinent and inherent prior art to Tsubouchi et al.

Regarding claim 39, any nozzle has a "hole" as in claim 40, which is read as a "means for passing the liquid fuel." The claims does not recite a "cylindrical portion." Again, the divergent portion of the known prior art nozzle as evidenced by Johnson is read as the "avoiding means." The spray produced by the nozzle of Johnson are composed of "drops," since the spray nozzle by itself does not provide any type of vaporization.